MTH1W1 Final Answers & Explanations Sheet

Question 5: Graph on Number Line

This question is missing the specific numbers to graph. Normally, you place each number at the correct position on a horizontal line. Example: to graph -3, 0, 2, you'd mark these points with dots on a line marked with numbers.

Question 7: Evaluate

a) $3 \times 9 - 4 \times 3^2 = 27 - 36 = -9$

b) $4(5 - 11) = 4(-6) = -24$

c) $2 + 3(10 - 6)^2 = 2 + 3 \times 4^2 = 2 + 3 \times 16 = 50$

d) $(3/8) \div (2/3) = (3/8) \times (3/2) = 9/16$

e) $4\frac{1}{2} \times (-2/3) + 7/8 = (9/2) \times (-2/3) + 7/8 = -3 + 7/8 = -17/8$

Question 4c: Pattern Limit

Sequence: 51, 54, 59, 516, 525... seems like a typo. If it's meant to be 51, 54, 59, 64, 69... then it's increasing without limit. Final answer: No limit (Increasing pattern).

Question 9: Solving Examples

a) $6r + 7 = 13 + 7r \rightarrow -r = 6 \rightarrow r = -6$

b) $-2(4x - 1) + 7 = 9 - (6x + 2) \rightarrow -8x + 2 + 7 = 9 - 6x - 2 \rightarrow -8x + 9 = 7 - 6x \rightarrow -2x = -2 \rightarrow x = 1$

c) $7a - 3 = 3 + 6a \rightarrow a = 6$

d) $-10 + x + 4 - 5 = 7x - 5 \rightarrow -11 + x = 7x - 5 \rightarrow -6 = 6x \rightarrow x = -1$

e) $12(x - 2) = 5 - 3(2x - 5) \rightarrow 12x - 24 = 5 - 6x + 15 \rightarrow 12x - 24 = 20 - 6x \rightarrow 18x = 44 \rightarrow x = 44/18 = 22/9$

f) $13 - 4x = 1 - x \rightarrow 12 = 3x \rightarrow x = 4$